

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US2005/009791

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/56

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/235175 A1 (NAGHIAN SIAMAK ET AL) 25 December 2003 (2003-12-25) figures 1,2,4 page 1, paragraphs 11,13,15 page 2, paragraphs 24,27 page 3, paragraph 28 page 4, paragraph 40 page 5, paragraphs 47,48 page 8, paragraph 77-81	1-26
A	US 2002/090949 A1 (STANFORTH PETER) 11 July 2002 (2002-07-11) figures 1,3,5 page 1, paragraph 6 page 2, paragraph 12-15 page 3, paragraph 25 page 4, paragraph 37	1-26

-/-



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principles or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

30 June 2005

Date of mailing of the international search report

15/07/2005

Name and mailing address of the ISA

European Patent Office, P.O. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx: 31 651 epo nl
Fax: (+31-70) 340-3016

Authorized officer

Mircescu, A

INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/179135 A1 (LOUHI JYRKI TAPIO) 25 September 2003 (2003-09-25) figures 1,2 page 1, paragraph 4-11 page 2, paragraph 11 page 3, paragraph 32 page 4, paragraph 39-43 -----	1-26

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2003235175	A1	25-12-2003	AU	2003242883 A1	06-01-2004
			EP	1527641 A2	04-05-2005
			WO	2004001519 A2	31-12-2003
US 2002090949	A1	11-07-2002	US	2003045295 A1	06-03-2003
			US	2003040316 A1	27-02-2003
			AU	2436102 A	21-05-2002
			CA	2428405 A1	16-05-2002
			EP	1344386 A1	17-09-2003
			JP	2004526341 T	26-08-2004
			WO	0239710 A1	16-05-2002
			US	2002058502 A1	16-05-2002
US 2003179135	A1	25-09-2003	AU	2003202114 A1	08-10-2003
			WO	03081922 A1	02-10-2003

PATENT COOPERATION TREATY

REC'D 13 JUL 2005

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From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION See paragraph 2 below

International application No.
PCT/US2005/009791

International filing date (day/month/year)
24.03.2005

Priority date (day/month/year)
26.03.2004

International Patent Classification (IPC) or both national classification and IPC
H04L12/56

Applicant
QUALCOMM INCORPORATED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this international Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80295 Munich
Tel. +49 89 2399 - 0 Tx: 523656 opmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Mircescu, A
Telephone No. +49 89 2399-7645



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/009791

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/009791

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-26
Inventive step (IS)	Yes: Claims	
	No: Claims	1-26
Industrial applicability (IA)	Yes: Claims	1-26
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Following document is referenced to:

D1: US 2003/235175 A1 (NAGHIAN SIAMAK ET AL) 25 December 2003 (2003-12-25)

A. Citations and explanations with respect to Item V

1. Document D1 which is considered to represent the closest prior art discloses according to all features of claim 1 a server terminal configured to operate in a cluster on a network backbone
(see D1, figure 1: the WLAN cluster; page 1, paragraph 11: "mobile mesh ad-hoc network consists of 1-N clusters ... the backbone access networks"),
comprising:
 - (a) a user interface configured to transmit and receive communications during a call with a first terminal connected to the network backbone
(see D1, figure 1: MN 108; page 1, paragraph 11: "at least one terminal ... backbone access networks"; the user interface is implicitly disclosed in the terminal since a terminal in the sense of figure 1 (MN 108) necessarily implies an interface in order to communicate to a user; the call is also implicitly disclosed since a communication between terminals always defines a call);
and
 - (b) a processor configured to support an inter-cluster call between second and third terminals by establishing a route on the network backbone for each communication packet transmitted from the second terminal to the third terminal (see D1, figure 1: different clusters: 110, 120, 140, 145; page 3, paragraph 28: "Ad-Hoc network consists of 1-N clusters ... Each ad-hoc cell may have at least one terminal as the Trunk Node. The Trunk Node as a gateway between access network ... and the child terminals of that cell"; this discloses a terminal of one cluster acting as a gateway (thus also as a router) for routing packets from it's cluster to different clusters, thus acting in an inter-cluster routing process. The processor is implicitly disclosed since any terminal operating a routing protocol necessarily implies at least one processor.).

The subject matter of claim 1 is therefore not new (Art 33(2) PCT).

2. Claim 12 relates to a method comprising method features corresponding to the apparatus features defined by claim 1. The above objections with respect to claim 1 are thus applicable mutatis mutandis to this claim. Therefore, the subject matter of claim 12 is also not new (Art 33(2) PCT).
3. The subject matter of claim 25 is equivalent to the subject matter of claim 1. The above objections with respect to claim 1 are thus also applicable to this claim. Therefore, the subject matter of claim 25 is also not new (Art 33(2) PCT).
4. The subject matter of claim 26 is equivalent to the subject matter of claim 12. The above objections with respect to claim 12 are thus also applicable to this claim. Therefore, the subject matter of claim 26 is also not new (Art 33(2) PCT).
5. Dependent claims 2-11 and 13-24 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, are novel for the reason that the subject matter of said claims is disclosed in document D1 (see in particular figures 1, 2, and 4; page 1, paragraphs 11, 13, and 15; page 2, paragraphs 24 and 27; page 3, paragraph 28; page 4, paragraph 40; page 5, paragraphs 47 and 48; page 8, paragraphs 77-81).

The subject matter of dependent claims 2-11 and 13-24 is therefore not new, Art 33(2) PCT.

B. Explanations with respect to Item VII

1. Although claims 1 and 25 on one hand and 12 and 26 on the other hand have been drafted as separate independent claims, respectively, they appear to relate effectively to the same subject matter, respectively, and to differ from each other only in respect of the terminology used for the features of that subject matter, respectively. The aforementioned claims therefore lack conciseness, respectively, and as such do not meet the requirements of Art 6 PCT, respectively.

2. The applicant's attention is drawn to the following matters, which should as well be considered:
 - 2.1 To meet the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in document D1 should be acknowledged in the description.
 - 2.2 The opening part of the description should be brought into conformity with the wording of any new or amended independent claim, Rule 5.1(a)(iii) PCT.
 - 2.3 To meet the requirements of Rule 6.3(b) PCT, any independent claim should be correctly cast in the two-part form, with those features which in combination are part of the nearest prior art being placed in the preamble.
 - 2.4 Reference signs in parentheses should be inserted in all claims to increase their intelligibility, Rule 6.2(b) PCT. This applies both to the preamble and to the characterizing portion.
 - 2.5 The vague and imprecise statement in the description on page 3, paragraph 9 and on page 16, paragraph 56 implies that the subject matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Art 6 PCT) when used to interpret them.
3. The attention of the applicant is drawn to the fact that the application may not be amended in such a way that it contains subject matter which extends beyond the content of the application as filed, Art 34(2)(b) PCT.

In his letter of reply, the applicant should indicate the parts of the originally filed application serving as a basis for subject matter newly introduced into the claims.

4. The applicant is requested to file amendments by way of replacement pages in accordance with Rule 66.8 PCT.